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ACCESSION NUMBER: 2004-636679 [62] WPIX Full-text

DOC. NO. CPI: C2004-228963

TITLE: Drying process for pelletized recycled plastic, in particular from polyester bottles, involves predrying using infra red heat followed by hot air drying in a silo.

DERWENT CLASS: A23 A32 A35 A92

INVENTOR(S): KREYENBORG, J

PATENT ASSIGNEE(S): (KREY-N) KREYENBORG VERW & BETEILIGUNGEN GMBH &

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
DE 10333648	A1	20040902	(200462)*		5	B29B013-06	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 10333648	A1	DE 2003-10333648	20030724

PRIORITY APPLN. INFO: DE 2003-10317171 20030415; DE
2003-10306413 20030215; DE
2003-10310244 20030308

INT. PATENT CLASSIF.:

MAIN: B29B013-06

SECONDARY: C08J003-00; C08J011-06

BASIC ABSTRACT:

DE 10333648 A UPAB: 20040928

NOVELTY - Plastic products are pelletized and fed to an infra-red rapid dryer(1) where they are heated to not less than 130 deg. C to effect precrystallization and predrying. In a subsequent post drying stage in a buffer silo(2) the pellets are heated to not less than 160 deg. C and finally dried to give a water content of not more than 0.005%.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for the process equipment which includes an infra-red rapid dryer(1), a heat-insulated conveyer(4), a post drying buffer silo(2) and a hot air heater(3).

USE - For production of dry plastic pellets from recycled materials, in particular polyethylene terephthalate from plastic bottles, which may be reused for production of plastic products, especially in an extruder or a injection molding machine (claimed).

ADVANTAGE - Energy usage and process time are reduced compared to existing processes.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic view of the process plant.

infra-red rapid dryer 1

buffer silo 2

hot air generator 3

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TECHNOLOGY FOCUS:

DE 10333648 A1 UPTX: 20040928

TECHNOLOGY FOCUS - MECHANICAL ENGINEERING - Preferred Method: Pellet dwell time in the infra-red dryer(1) is approximately 10 minutes and the pellets leave the dryer at approximately 160degreesC. Post drying in the buffer silo(2) is with hot air which circulates through a hot, dry air generator(3) and the buffer silo. Dwell time for predried particles in the

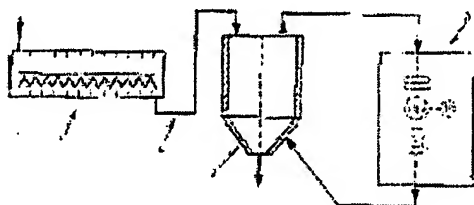
silo is approximately 1hr.

FILE SEGMENT: CPI

FIELD AVAILABILITY: AB; GI

MANUAL CODES: CPI: A05-E04D; A11-A02A; A11-A04; A11-B02; A11-C03;
A12-S09A

Drying process for pelletized recycled plastic, in particular from polyester bottles, involves predrying with followed by hot air drying in a silo



Novelty: Plastic products are pelletized and fed to an infra-red rapid dryer(1) where they are heated to $\sim 130^{\circ}\text{C}$ to effect precrystallization and predrying. In a subsequent post drying stage in a buffer silo(2) the pellets are heated to $\sim 160^{\circ}\text{C}$ and finally dried to give a water content of $\sim 0.005\%$.

Use: For production of dry plastic pellets from recycled materials, in particular polyethylene terephthalate from plastic bottles, which may be reused for production of plastic products, especially in an extruder or a injection molding machine (claimed).

Advantage: Energy usage and process time are reduced compared to existing processes.

Detailed Description: An INDEPENDENT CLAIM is in equipment which includes an infra-red rapid dryer(1), a heater(4), a conveyor(4), a post drying buffer silo(2) and a hot air heater(3).

infra-red rapid dryer 1

buffer silo 2

hot air generator 3

Company Code: KREY-

Drawing: 1/1

Inventors: KREYENBORG J

IPC: B29B 13/06; C08J 3/00; 11/06

Derwent Classes: A35; (A23; A32; A92)

Latest Priority: 2003.04.15 2003DE-1017171

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